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Half - h/2e - Oscillations of SQUIDs JOCHEN MANNHART, CHRISTOF SCHNEIDER, GERMAN HAMMERL, GENNADIJ LOGVENOV, THILO KOPP, Center for Electronic Correlations and Magnetism, Institute of Physics, University of Augsburg, D-86135 Augsburg, JOHN KIRTLEY, IBM Thomas J. Watson Research Center, P.O. Box 218, Yorktown Heights, New York 10598, USA, PETER HIRSCHFELD, Department of Physics, University of Florida, Gainesville, Florida 32611, USA, HELÈNE RAFFY, Laboratoire de Physique des Solides, Universitè de Paris-Sud, 91405 Orsay, France — The current-voltage-voltage characteristics of Superconducting Quantum Interference Devices (SQUIDs) are known to modulate as a function of applied magnetic filed with a period of one flux quantum $\Phi_0 = h/2e$. Here we report on the fabrication and properties of SQUIDs modulating with a period of 1/2 x Φ_0. The characteristics of these bicrystal SQUIDs are consistent with either a strong $\sin(2\phi)$ component of the current-phase relation o f the Josephson current, or with an interaction between the Cooper-pairs, causing an admixture of quartets to the condensate.

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